

CLAIMS:

1. A molecular structure of the recognition site of an anti-idiotypic antibody against an apoptotically active site of human alpha-fetoprotein localized at the amino acid residues 251-259 of said protein, or at the amino acid residues residues 246-254 of human serum albumin.
2. A peptide structure of the active site of human alpha-fetoprotein or albumin according to Claim 1 with general formula CCRGDVLD_nX_mY, or CCHGDLLE_nX_mY, in which formula X is any hydrophobic amino acid and Y is any hydrophilic amino acid, and the index n is 1, 2, or 3, and index m is 1, 2, or 3.
3. A linear peptide structure of Claims 1 or 2 having 0, 1, or 3 flanking cysteine residues at the N-terminus and 0, 1, 2, or 3 flanking cysteine residues at the C-terminus of the peptide.
4. A polymerized or cyclized peptide structure of Claim 3.
5. A peptide structure according to Claims 1-4 characterized by a simultaneous presence of sequences RGD and DXXD in the same molecule, wherein X means any hydrophobic amino acid residue and R, G and D mean Arg, Gly and Asp, respectively.
6. A hexapeptide according to Claim 5, wherein D of sequence RGD is common with the sequence DXXD.
7. Peptide sequences according to Claim 2, wherein X in the general formulae means V, L, or W, or any of their combinations, and Y means D, E, or G.
8. Linear, polymerized, or cyclized structure of C*C*RGDVLDC*, wherein the asterisk residues denote to places of possible disulfide bonds.
9. Linear polymerized, or cyclized peptides, according to Claims 1-3, of structures C*C*HGDLLEC*, wherein the asterisk amino acid residues denote to places of possible disulfide bonds.
10. The use of peptides of Claims 2-9 for suppressing of the apoptotic regulatory pathways in human and animal cells.
11. The use of peptides of Claims 2-9 for increasing preservation of organs or cells within their transplantation.
12. The use of peptides of Claims 2-9 for preventing of autoimmune disorders and an immunodeficiency syndrome induced by a viral infection.
13. The use of peptides of Claims 2-9 for lowering cytotoxic effects after chemo- or radiotherapy.
14. The use of peptides of Claims 2-9 for inhibiting neuronal cell apoptosis, non-specific drug-induced apoptosis, or oxidative stress-mediated apoptosis.

15. The use of peptides of Claims 2-9 for preventing apoptosis of cultured cells prepared for scientific or technical purposes.
16. Any molecular structure according to Claim 1, the structure characterized by its ability to bind into an antibody prepared against the molecular recognition site of a Fab-fragment of said anti-idiotypic antibody